



PetroChina headquarters

– showcases sophisticated lighting control

Equipped with a range of energy-saving systems and advanced green building management technologies, the new headquarters of PetroChina has redefined office building performance – operationally and environmentally.

In fact, PetroChina HQ has set a new benchmark for efficiency and has emerged as a potential reference case for the

development of a China-specific 'environmental performance' building standard.

One of the key sustainability initiatives used in PetroChina's new state-of-the-art headquarters is a sophisticated, intelligent lighting control system designed by Philips Dynalite.

PHILIPS

dynalite 

Client requirements

The brief was to install a lighting control system that would deliver real lighting control flexibility and functionality.

In keeping with the complex's range of energy-saving systems and advanced building management technologies such as DALI, the lighting control system also needed to complement the sustainable architecture in place.



The Philips Dynalite solution

Philips Dynalite delivered an automated lighting control system that is the cornerstone of PetroChina's environmentally sustainable headquarters.

The Philips Dynalite lighting control system links into the central site-wide Building Services LAN network gateways.

It is configured and managed using EnvisionManager graphical user interface via a user-friendly centralised management system. EnvisionManager provides a visual overview of the entire lighting system. Operators are able to readily identify every light fixture, circuit and channel across the entire complex and control them automatically or manually.

Unrivalled integration

The integrated control system allows lighting levels to be tailored to the use of space, allowing total flexibility for zone switching and dimming.

Coupled with a network of smart motion sensors that feed information back to the control system, this ensures no areas are over-lit or illuminated when not in use.

Importantly, the lighting control system supports China's largest DALI lighting application incorporating over 8,000 individually addressable fluorescent HF DALI ballasts, in addition to the system's 2500 switched circuits.

This provides a high degree of control, allowing operators to easily customise lighting schemes to specific areas, office configurations and events.

Limiting the light

The lighting control system is programmed to operate in three distinct timer-based automated modes – 'working', 'lunch' and 'after hours' (security and cleaning).

Although the precise timing and functionality is individually configurable for each floor and/or zone, it essentially corresponds to 'lights on' at the commencement of working mode, followed by a timed sequence of dimming to lunch mode, ending in 'lights off' when the system goes into after hours mode. In 'after hours' mode, motion sensors are activated in amenity areas and lift lobbies to initiate lighting if motion is detected.

Measurable energy savings

This level of operational flexibility simplifies the management of lighting energy consumption for the entire building. By ensuring that lighting is only activated when and where it is required, significant energy savings can be achieved.

The complex is equipped with a number of innovative design features aimed at optimising environmental performance. Automated mirror-coated blinds mounted on the exterior of the building windows track the sun during the day and reflect light into the building's interior.

The daylight harvesting functionality of PetroChina HQ's lighting control system automatically modulates artificial light levels according to the level of natural light available. This not only saves energy but keeps lux levels within a predetermined range for occupancy comfort.

“The Philips Dynalite lighting control system provides complete control over the lighting environment with the touch of a button.”

Products and technology used

The Philips Dynalite lighting control system comprises a selection of ballast and relay controllers operating in conjunction with motion sensors and user-control panel interfaces, forming a total system solution.

All of the components are linked via Philips Dynalite's sophisticated peer-to-peer communications serial bus network DyNet.

A key product is EnvisionManager, which allows operators to activate pre-determined lighting schemes as part of an automated lighting program or manually set lighting levels.

Key client benefits

The real strength of the Philips Dynalite lighting control system is its capacity to schedule lighting scenes automatically and respond to changes in occupancy and daylight levels, which delivers significant energy savings for PetroChina.

The network connectivity gives building managers and occupants day-to-day control over the lighting system, which benefits workplace productivity. In a nutshell, the system delivers real operational flexibility.

Thanks to the building's scalable control architecture, future expansion of the system should be straightforward allowing additional third-party controllers for other applications to easily be integrated.

“ Incorporating China's largest DALI lighting installation, the lighting control system at PetroChina's headquarters is setting the standard for flexible control and green building performance. ”



Headquarters & All other countries/regions

P: +61 (0) 2 8338 9899
E: dynalite.info@philips.com
W: dynalite-online.com

Australia, New Zealand

SYDNEY, AUSTRALIA
P: +61 (0) 2 8338 9899
E: dynalite.info@philips.com
W: dynalite-online.com

North Asia

SHANGHAI, PR CHINA
P: +86 21 2412 8035
E: dynalite.info@philips.com
W: dynalite-online.com

South Asia

SINGAPORE, SINGAPORE
P: +65 6882 3000
E: dynalite.info@philips.com
W: dynalite-online.com

India

DELHI, INDIA
P: +91 124 460 6333
E: dynalite.info@philips.com
W: dynalite-online.com

Europe (ex.UK)

EINDHOVEN, THE NETHERLANDS
E: info.lightingcontrols@philips.com
W: dynalite-online.com

United Kingdom

GUILDFORD, UNITED KINGDOM
P: +44 (0) 148 329 8950
E: lcuk.sales@philips.com
W: dynalite.eu

Middle East & North Africa

DUBAI, UAE
P: +971 4 214 6130
E: dynalite.info@philips.com
W: dynalite.com.au

United States

DALLAS, TEXAS
P: +1 800 526 2731
E: controls.support@philips.com
W: lightolier.com

Canada

LACHINE, QUEBEC
P: +1 514 636 0670
E: controls.support@philips.com
W: canlyte.com

For more information, please contact

